

(*E. erosa* Loew), pleura whitish pruinose, scutellum and abdomen dark brown, the fourth and fifth segments blackish. Halteres white. Legs light brown. Wings grayish hyaline with the tip beyond the outer cross-band whitish, the inner edge of this band poorly defined, the middle band extending from the costa (between the ends of the first and second veins), across the posterior cross-vein to the tip of the fifth vein, the inner band extending from the end of the auxiliary across the base of the discal cell to the tip of the anal vein, base of the wing yellow. Length 5 mm.

One specimen, collected by Mr. S. M. Dohanian, at Kelley Field, near San Antonio, Texas, April 27, 1918.

#### *Stegana barretti* sp. nov.

*Female.* Face whitish, cheeks brown, shining, front brownish black, opaque, antennæ brown. Thorax, scutellum and abdomen bluish black, shining, sparsely covered with fine black hairs, humeri and a large spot on the pleura below the base of the wing, snow white. Femora and tibiæ black, tarsi yellow. Halteres yellow. Wings hyaline, with a slight yellow tinge. Length 3.5 mm.

Collected at Amecameca, Mexico, Sept., 1900, by Mr. O. W. Barrett.

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### A SYMBIOTIC ORGANISM IN FULGORIDS.

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When working on the natural enemies of the delphacid, *Perkinsiella saccharicida*, in Australia, in the latter part of 1919, I found that about eighty per cent of the eggs of this insect in the field were destroyed, and a fungus always present. At first I took the fungus to be the cause of the destruction of the eggs, but upon further investigation, I found that this was not so, and that these eggs were all punctured and their contents sucked up by a Mirid, *Cyrtorhinus mundulus* (Bred.).

Further observations revealed the fact that the young, adults

and eggs of all Delphacidæ contained yeast-like cells very similar to the cells described by Speare in cutworms.\* In the adult female *Perkinsiella* these organisms clustered around certain parts of the ovarian tubes and evidently penetrated the walls and entered the eggs where they could always be found congregated in a round mass at the posterior end of the egg. They appear to be held together by a viscid substance, for under a little pressure they flatten out and return to a sphere when the pressure is released. With greater pressure the ball bursts and the cells are dispersed. After the eggs are laid, this mass becomes reddish, due to minute red bodies; during development it works up to the anterior end of the egg and breaks up. Most of the cells appear to be thrown out of the embryo and lie under the egg cap, but a number remain within the embryo and multiply by end-building. After the young leave the egg-shell, the cells remaining within the shell germinate, develop hyphæ, and, if the conditions be favorable, fructify in a similar manner to *Sorospora uvella* described by Speare.

All the species of Delphacidæ that I examined in Australia contained this organism, but in no species of Ciccadellidæ could I find any. All species of Hawaiian Delphacidæ so far examined contain them, and also *Siphanta acuta*, an introduced Australian fulgorid.

It appears that this organism is in no way inimical to its host. Perhaps it is beneficial, helping it to digest the starches and sugars which form a large percentage of its food.

This note is published in the hope that some student of mycology will make further investigations, work out the life history and identify the fungus.

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\* Jour. Agri. Research XVIII. 8, 1920, pp. 399-440.